

KM-31BK

HD-Multimedia Player & Recorder



www.kingwin.com

1. Introduction

1.1 Preface

Dear Customer,

Thank you for purchasing KM-31BK. In the digital age, this product is a great home entertainment system. You can enjoy movies and music, view photos of precious moments, and record your favorite TV or movie program and view them whenever. The device can also backup the data from your digital camera without a PC. It's easy to use this product as a portable external storage device with USB 2.0 speed.

This player has the following functionality:

Movie Playback – Support Čodec's: VOB (DVD), IFO (DVD), MPG (MPEG-2/1), AVI (MPEG-4 ASP: XviD), DAT (VCD), and MPEG2 TS files; resolution up to 1080i.

Video Recording – supports one button recording and schedule recording in MPG format, can easily record programs from TV, DVD player and DV, and save as MPEG-2 (.mpg) format; also can edit the recorded titles.

Time shifting function

Music Playback	-Support Codec's: MP3, OGG, WAV and WMA* files
	 Supports one button playlist music playback
Photo Playback	-Support Codec's: JPEG, and BMP files
Data Storage	 Work as a portable hard disk using USB 2.0 port
Network function	-Network streaming playback

We hope that this product will bring you a lot of enjoyment. We are committed to apply multimedia technology in your work, entertainment, family, daily life, car and everywhere!

* WMA Pro & Advanced Profile and WMA with DRM are not supported.

1.2 Packing List

Player, A/V cable, Component cable, USB cable, LAN cable, Remote Control, AC/DC adaptor, AC/DC adaptor Power Cord, User Manual, Quick Installation Guide, Driver CD

Note: The actual contents in the package might be different from the packing list in this manual.

1.3 Caution

This player's design and manufacture has your safety in mind. In order to safely and effectively use this player, please read the following before usage.

1.3.1 Usage cautions

User should not modify this player. If a commercial hard disk is being used, the environmental temperature should be within $+5^{\circ}C \sim +35^{\circ}C$.

1.3.2 Power

The player's power voltage: DC 12V. When using this player, please connect the supplied AC adapter or AC adapter cable to the player's power jack. When connecting the adapter cable, please do so with caution, or be subject to pressure. To reduce the risk of electric shock, unplug the adapter first before cleaning it. Never connect the adapter to the player in a humid or dusty area. Do not replace the adapter or cable's wire or connector.

1.3.3 Radio interference/compatibility

• If not properly shielded, almost all electronic devices will get radio interference. Under some conditions, your player might get interference.

• The design of this player has followed the FCC/CE standard, and has followed the following rules:

(1) This player may not cause harmful interference;

(2) This player could accept some interference received including interference that may cause undesired operation.

1.3.4 Repair

If the player has a problem, you should take it to an appointed repair center and let the specialists do the repair, never repair the player yourself, you might damage the player or endanger yourself or your data.

1.3.5 Disposing of the player

When you dispose the player, be sure to dispose it appropriately. Some countries may regulate disposal of electrical device, please consult with your local authority.

1.3.6 Hard disk cautions

The player uses an internal hard disk for data storage, if you have a brand new hard disk, please format first before proceed.

You should carefully read the < Frequently Asked Questions > chapter, and check our website for the latest information before formatting the hard disk. If you need to format, please note the following:

(1) When formatting the hard disk on a computer, remember to choose FAT32 as the system format. If you use NTFS system, the player may not operate properly in some situation.

Note: NTFS partition on the hard disk is read-only when using the KM-31BK to transfer files.

- Physical impact may create a bad sector in the hard disk; you can use CHKDSK to fix the problem.
- All data stored in the player may be lost due to physical impact, electrical shock, power lost, HDD format, etc. Please backup your data.
- It is suggested to defrag after a long period of use.
- Regularly backup the data in the hard disk so that it can be recovered in the event of data corruption or loss. Our company takes no responsibility for loss of data stored on the hard disk.

1.3.7 Other Information

When using this player, please do not let the player come into contact with water or other types of liquid, if water is accidentally spilled on the player, please use a dry cloth to absorb the spillage.

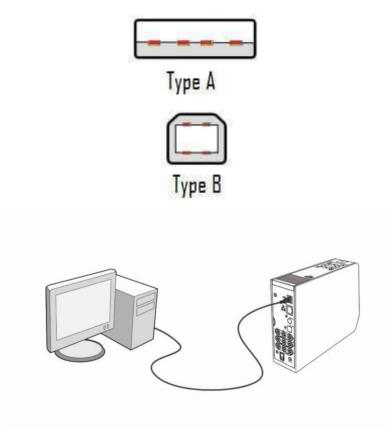
Electronic products are vulnerable. Please avoid shaking or hitting the player, and do not press the buttons too hard.

- Do not let the player come into contact with water or other forms of liquid.
- Do not disassemble the player; repair the player or change the design of the player, any damage done will not be included in the repair policy.
- Do not press the buttons of the player too hard.
- Avoid hitting the player with hard object, avoid shaking the player, and stay away from magnetic fields.
- If a power surge occurs, a cold boot might be required. Cold boot can be done by turning off the power switch and unplugging the power cord. After you reconnect the cord and turning the power switch back on, the product will return to normal performance.

1.4 Connection

1.4.1 Connecting to a Computer

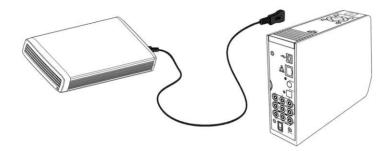
- (1) Turn on the device
- (2) Plug in the type B connector of the USB cable to the KM-31BK's USB DEVICE port.
- (3) Plug in the type A connector of the USB cable to the computer.



1.4.2 USB Mass Storage Device (Flash drive, MP3, USB HDD etc.) Connection

(1) Turn on the device.

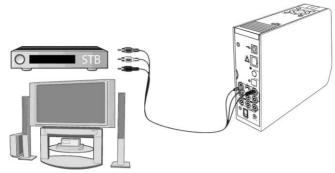
(2) Plug in a Flash disk or USB HDD etc. to one of the USB host ports of this player.



1.4.3 Recording using Composite cables

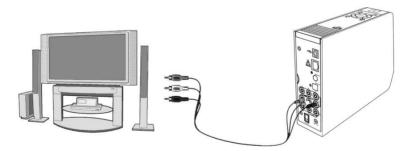
1. Composite IN

- (1) Connect one end of the composite (Red, white, yellow) cable to the player's composite jack.
- (2) Connect the other end to set-Top Box, Sat, cable box, etc. (see below), you can record TV programs from your Set-Top Box.



2. TV connection using composite (Composite out)

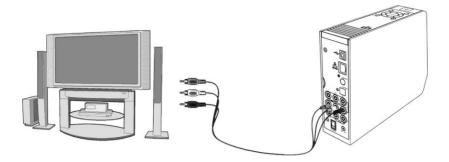
- (1) Connect one end of the composite (Red, white, yellow) cable to the player's composite jack.
- (2) Connect the other end to your television's composite jack.



3. TV connection using Component (Y/Pb/Pr)

- (1) Connect one end of the component (Green, Blue, and Red) cable to the player's component jack.
- (2) Connect the other end to your television's component jack.

*Component connection does not carry audio. Please view the next page for more details.



In this way, you can also enjoy videos, music, and photos in the player on TV.

4. Receiving audio when using component.

Component connection does not carry audio. There are two ways you can receive audio when using component connection.

(1) Use the audio output from the composite cables (audio is carried from the red and white cable).

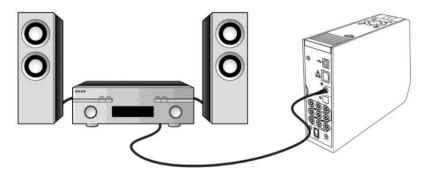
(2) Use the audio output from the S/PDIF Coaxial or Optical jack.

*When using composite cables for audio, connect the red and white cables only.

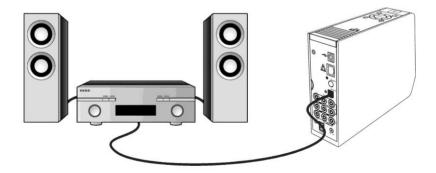
1.4.4 Digital Audio Device connection

- Plug one end of the coaxial cable to the player's coaxial jack. If you are using an optical cable, please plug in the connector on to the player's S/PDIF Optical jack;(not supplied)
- (2) Plug in the other end of the connector to your digital audio device.

Coaxial Jack Connection

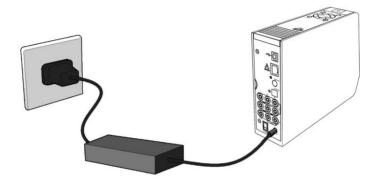


Optical Jack Connection



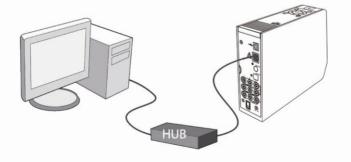
1.4.5 Power connection

- (1) Make sure the power switch is off.
- (2) Connect the small end of the AC adaptor to the player's DC IN jack.
- (3) Connect the big end of the AC adaptor to the power outlet.



1.4.6 Network connection

- (1) Connect one end of the Ethernet cable to the player's Ethernet socket.
- (2) Connect the other end of the Ethernet Cable to your networking device.



1.5 First Time Usage

1.5.1 Format Hard disc

For users who bought the player without a HDD inside, and want to install a SATA HDD, please see "Formatting a hard drive" on page 21 for details.

1.5.2 Remote Control

Install the batteries before using the remote control. Installation is shown below.



1.5.3 Power on/off, language control

1. Power on

To power on the device, turn on the power switch which is located on the back of the device. After the player is on, the power indicator on the front panel will light up. The device will then boot to the media center's user interface.

2. Power off

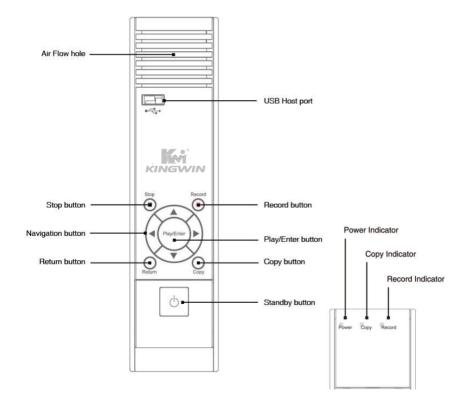
To power off the device, press the power button that is located in front of the media center. The user interface of the media center will be off, but the unit will still be on. This is indicated when the power led light is red. To turn off the device completely, turn the power switch that is located in the back off.

3. Language control

The system language of this player can be set to English or other languages. This feature is located when you first setup the media center.

2. About the Player

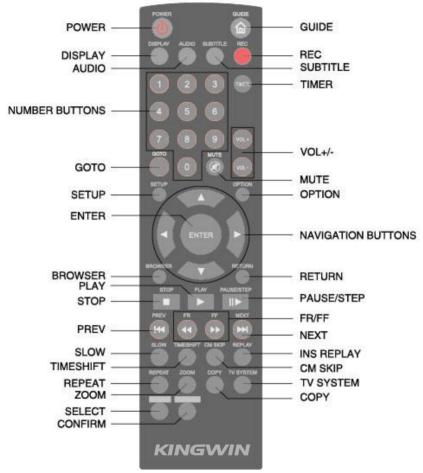
2.1 Front Panel



2.2 Remote Control

All procedures in this manual can be carried out using the remote control buttons. Certain functions can also be carried out using the front panel.

See the following for details on each button and its function:



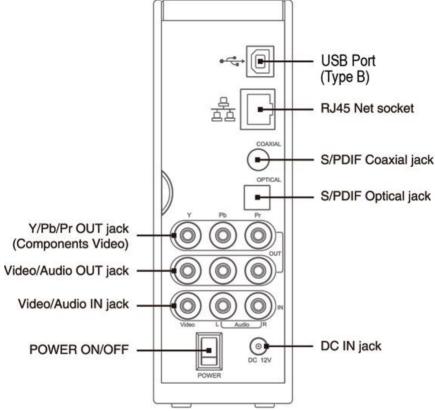
Button	Function
POWER	POWER button : Press to POWER on or off this device.
DIBPLAY	DISPLAY button : Press to display current status. Press during playback and an onscreen display appears, showing track number and time elapsed/remaining. Press during recording and an onscreen display appears, showing the recording quality setting and time elapsed.
	AUDIO button : Press to select an audio track on a HDD or USB file.
	Numeric buttons : Press to enter channel numbers or numeric input when changing settings.
GOTD	GOTO button : Press to jump to a specific point on the disc or title. Specify the point using Title, Chapter and Time.
SETUP	SETUP button : Press to access the Setup Menu directly to change system settings.
ENTER	ENTER button : Press to select confirm in menus.
BROWBER	BROWSER button : Press to browse the music, photo, movie, all files on USB,HDD.
STOP	STOP button : Press to stop playback.
PLAY	PLAY button : Press to begin playback HDD title.

Button	Function
	PREVIOUS buttons : Press to go the prev. on a HDD or USB file when playing music. Press to page up the file list at Browser.When play photo, the button is enable; play Movie and Mp3 file, the button is disable.
SLOW	SLOW MOTION button: Press to play back in slow motion. Three motion settings are available Five slow motion levels (3/4, 1/2, 1/4, 1/8, 1/16x) are available. Press to resume regular playback.
TMERHIFT	TIME SHIFT button : Press to activate the timeshift function, which allows you to pause live TV and resume the program from the point you left it. While paused, the program is recorded to the HDD, as long as space is available. Press to activate TIME SHIFT function and wait for the PLAY arrow to appear on the screen. Press Press and the program is paused. Press Image: to resume viewing the program. Timeshift mode remains active until you press the
REPEAT	REPEAT buttons : Press REPEAT 1 / ALL to set repeat option - Chapter, Title or Off.
	ZOOM button : Press to zoom in/out when playing back photos or Video programs. Photo zoom levels:2X,4X,8X,16X; Video zoom levels:2X,3X,4X,8X.
SELECT	SELECT buttons : Press to select file or folder to rename or delete.
	CONFIRM button : Press to select confirm.
	GUIDE button : Press to view the Guide menu. See "The Guide Menu" on page 6 for more details.

Button	Function
REC	RECORD button : Press to begin recording or to resume when recording has been paused. Press repeatedly to set OTR length (30 mins / 60 mins / 90 mins / 120 mins / 180 mins /240 mins/Off).
SUBTITLE	SUBTITLE button : Press to activate available subtitles when play the DIVX file. DivX subtitle supported: SRT,SMI,SUB,SSA format file.
THEF	TIMER button : Press to enter the Timer Menu directly to add, edit and delete recording schedules. See "Creating a New Schedule" on page XX for more details.
vot	VOL + / - buttons : Press to increase or decrease the volume.
МЛТЕ	MUTE button : Press to mute audio output, and press again to resume.
	OPTION button : Press to select option bar.
	Navigational buttons : Press the arrow buttons to navigate the menus.
RETURN	RETURN button : Press to return to the previous screen when navigating the menus.
	PAUSE / STEP button : Press to pause current playback. Press again to step to the next frame. Press provement to resume playback.

Button	Function
×.	NEXT buttons : Press to go the next on a HDD or USB file when playing music. Press to page down the file list at Browser. When play photo, the button is enable; play Movie and Mp3 file, the button is disable.
	FAST REWIND / FAST FORWARD buttons : Press to fast rewind or fast forward the current playback. Press repeatedly to select faster rewind or fast forward speeds.
REPLAY	INS REPLAY button : Press to backward 10 seconds of the current playback, which suitable for sport program.
	CM SKIP button : Press to advance 30 seconds when in playback or record mode.
TV SYSTEM	TV SYSTEM button : Press to switch between NTSC Interlaced, NTSC Progressive, PAL Interlaced, and PAL Progressive.
Сору	COPY button : Press to copy file from one device to other. See "FILE COPY MENU" on page 30 for more details.

2.3 Back Panel



3. Getting Started

quide menu by pressing

1. Power on the KM-31BK media center. The startup logo will appear.



2. After a few second, the system will enter a guide menu. You can also enter the



on the remote control.



3.1 Video In

To select a recording source, select the Video In icon on the guide menu page.

3.2 File Copy

This feature allows user to copy files from a variety of devices. Please view section 9 "File Copy Menu" for more details.

3.3 Browser

This feature will enable you to browse through movies, photo, and music files stored either on a hard drive, USB flash drive, or your home network. This can be accessed by selecting the browser icon on the menu page or simply press on the browser button on your remote.

3.4 Setup



To enter the setup menu, select on the menu page.

3.5 Time REC

To enter the Time REC setup page, select Timer REC button on the menu page.

on your remote control, or select the setup icon



on your remote control or select the

4. Formatting a Hard drive

Please use KM-31BK direct hook up to you TV to format your hard drive for the first time. You can use the KM-31BK formatting interface within the setup menu page. The hard drive can also be formatted through a computer. FAT32 is required for the player to work properly with the recording feature. The following image will be shown during the setup.

	War	ning!!!	
formatt		nter the hard disc res. Please refer to you start	
	a in the har press 'OK' in	d disc will be remove n below	be
	OK	CANCEL	

Select the "OK" icon and press to proceed to the next stage. Otherwise, select cancel to return to the menu page.

4.1 Partitions (FAT32 & NTFS)

If you format the drive using the KM-31BK, it will be formatted into two partitions. One partition will be FAT32 and the other partition will be NTFS. The FAT32 partition is the partition in which files can be written to*. The NTFS partition is only readable, and files cannot be written to that partition when using the KM-31BK to transfer files. You can adjust the amount of space each partition can have as it is diagramed on the next page.

*FAT32 file system limits each file size to 4 GB.

	o adjust the partition
Total F AT32 Partition	Free Space: 155G bytes NTFS Partition 50%
lin. = 10%	Min. = 0%
Back	Next

Use the navigation buttons on your remote to adjust the Fat32 and NTFS partition.

Once you have finished, select the "next" icon and press . Otherwise, select the back icon to return to the previous menu.

4.2 Formatting

You will now see the "Hard Disc Format" guide as it is shown below.

Press 'Format' to sta	rt	
6		
1		
Back	Format	

Select the "Format" icon by using the navigation buttons on your remote.

Press **ENTER** to start formatting on the hard drive. Otherwise, select the back icon to return to the previous menu.

*Formatting will erase the entire drive. Please Back-up your data before proceeding.

4.3 Congratulation page

Once the formatting has been completed, the "Congratulation page" will be displayed.

	Congratula	tion		
	Hard Disc format is comple Press 'OK' to exit	eted.		
	ОК			
elect	the "OK" icon and Press	ENTER	to exit th	e pa

5. My Recordings

The KM-31BK media center comes with a recording function. You simply press the



button and a folder called "My Recordings" will be created on your hard drive. Movies that have been recorded will be placed in this folder. The file name will be named according to your timer settings.

5.1 REC List Menu



6. Timer Record Menu

The Timer Record menu allows you to create, edit and delete recording schedules. It can also display previous recording schedules. The "Timer Record" page is located in the guide menu.

6.1 Creating a New Schedule

- (1) Navigate to the "Timer REC" page.
- (2) Use the navigation button on the remote to select the "Edit" tab on the menu bar.
- (3) Select "Add a new schedule" and press

Na	Source	Start time	Length	Status
			2008/2/19	Tue 15:57

(4) The schedule setting screen will appear (see the next page).



(5) Use the navigation buttons on the remote control to move between fields and to adjust each setting.

A	
Start Time	Enter the date and time of the recording
Length	Enter the length of the recording
Repeat	Select how often you want the schedule to record. Choose from Once, Everyday, Mon-Fri, Mon-Sat or for an individual day of the week.
Quality	Select the recording quality. Choose from HQ, SLP, EP, LP and SP. The higher the quality, the more space required on the hard drive. See HDD/USB Free Space on the left of the screen for details of how long you can record.
Preview	This small preview window will show the current program of the selected channel

6.2 Editing Schedules

- (1) Select the "Edit" tab on the menu bar.
- (2) Select the schedule that you wish to be edited (see the next page for a diagram).

Na	Source	Start time	Length	Status
		Add a new schedule		
	Video 1	02/19 16:07	00:02	LOCK
			2008/2/19	Tue 16:06

6.3 Deleting Schedules

- (1) Select the "Delete" tab on the menu bar.
- Once you have selected the schedule to be deleted, press (2)
- A confirmation message will appear (see below for screenshot). (3)



Select "CANCEL", if you choose not to delete the schedule. Select "Delete (4) the selected schedule" if you wish to delete the schedules you have selected. Select" Delete all schedules" if you wish to delete all schedules.



6.4 Schedule Status

- (1) Select the "Status" tab on the menu bar.
- (2) Select the schedule and press

The schedule status will be displayed.



- (3) Select Enable VPS, Disable VPS or Pause the selected schedule.
- (4) Press

to confirm.

6.5 History

(1) Select the "History" tab on the menu bar.

Here you can view a complete history of your recordings.

Hist	ory I	Edit Odlete	Status	
Na	Source	Start time Add a new schedule	Length	Status
			2008/2/19 Tue	16:03

7. Setup Menu

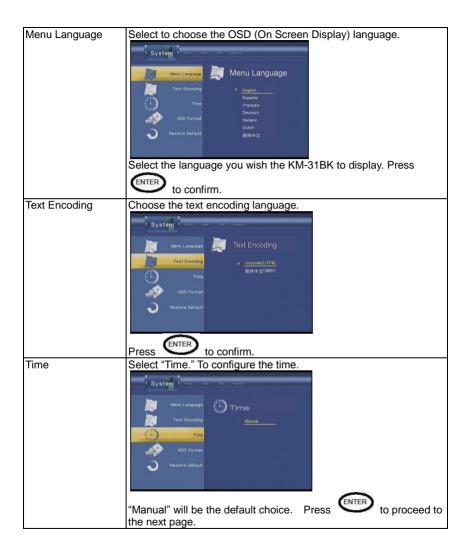
The Setup Menu allows you to configure the KM-31BK system settings. To enter the menu, select "Setup" from the Guide menu.

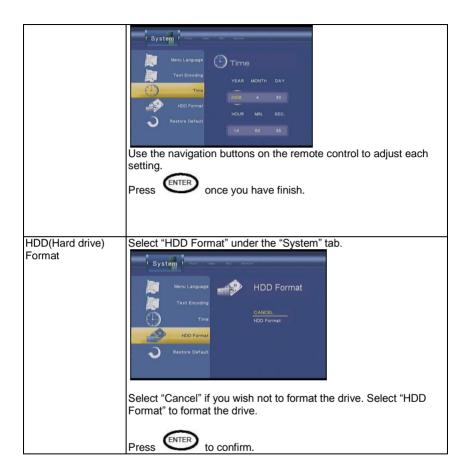
7.1 System Settings

(1) Use the navigation buttons on the remote control to select the "System" tab from the menu bar.

System) Proto Volea HEC Hetwark					
Menu Language					
Text Encoding	Unicode(UTF8)				
Тіте					
HDD Format					
Restore Default					

(2) Select the settings you want to revise. (Details of each setting are listed on the next page).



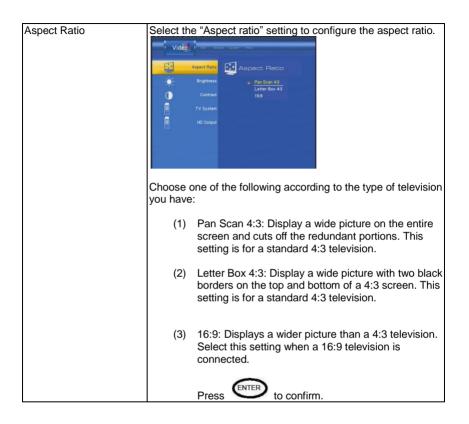


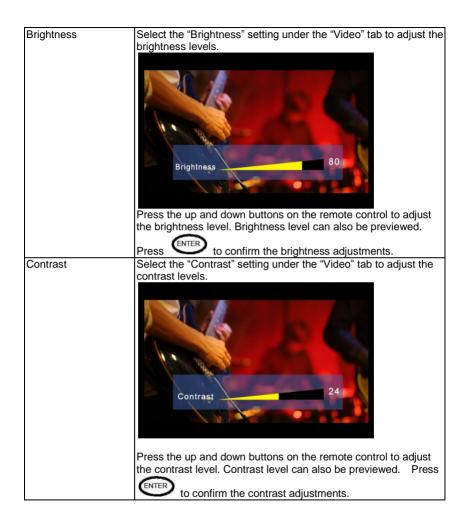


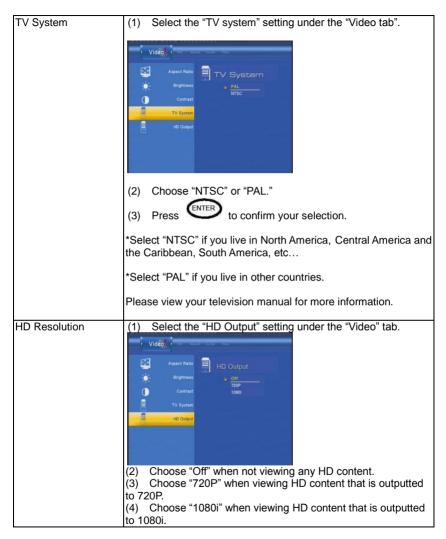
7.2 Video Settings

The KM-31BK media center allows users to configure the video output to your television. Use the navigation button on the remote control to select the "Video" tab from the menu bar. (Please view the next page for details on each video setting).









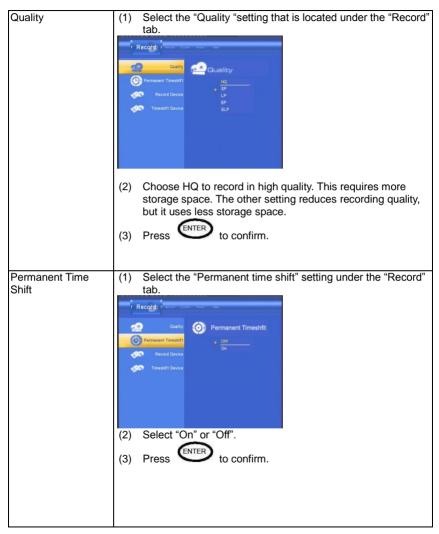
(5) Press ENTER to confirm.
*Please view your television manual to see what resolution your television supports.

7.3 Recording Settings

The recording settings on the KM-31BK lets users configure the recording quality, time shift, and the recording and time shift device. To access the recording settings, simply select the "Record" tab.



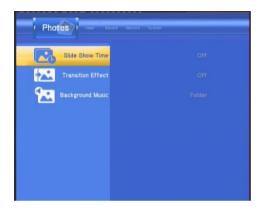
Please view the next page for details on the recording settings.

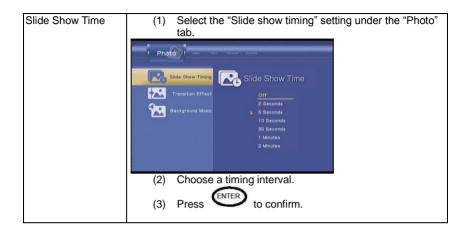


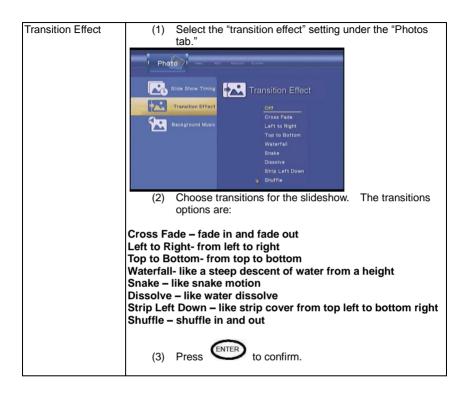
Recording Device	 (1) Select "REC device" under the "Record" tab. (2) Select "HDD" if you are recording your content to a hard drive. Select "USB" if you are recording to an external recording device that is connected to media center via USB. (3) Press EVER to confirm.
Timeshift Device	 (1) Select the "timeshift" setting under the "Record" tab. Image: Construction of the setting of the setting

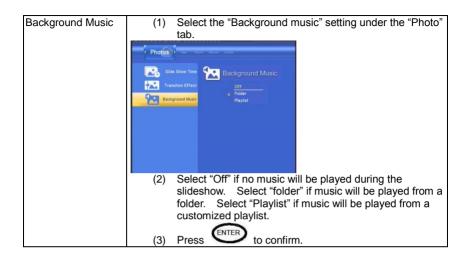
7.4 Photos Settings

The KM-31BK media center also allows users to view a variety of digital pictures with their own custom settings. To access the photo settings, simply select to "Photo" tab in the setup menu. Please view the next page with more details for each setting.



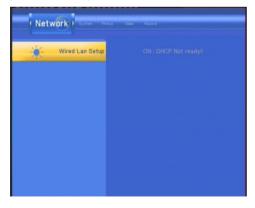




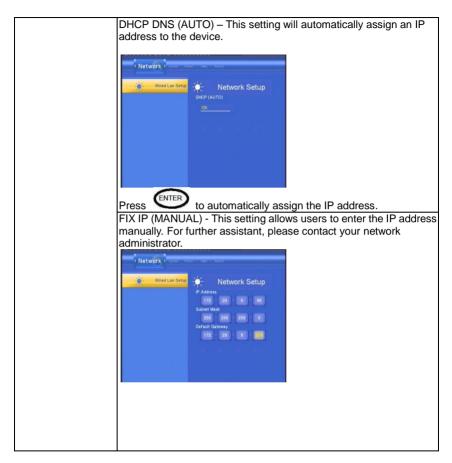


7.5 Network Settings

The KM-31BK media center has the capability to see any computer that plug-in to your network. This feature allows you to access any multimedia files from any computer. To access the network features, simply select the "Network" tab in the setup menu page (as shown below).



Wired Lan Setup	 Before using the network functions, please follow these steps first: (1) Connect the KM-31BK media center to a router or hub using the Ethernet cable. (2) On Windows XP please enable NetBIOS of TCP/IP for your PC's network card. On OSX Leopard please enable file sharing in the system preferences panel. (3) Please turn off your computer's firewall. (4) Select the folders you wish to share. On Windows XP, right-click on the folder and select "sharing and security." On OSX Leopard add the folder within in the "Shared Folders." Please enable samba when using OSX Leopard. Once you have these enable please follow these next steps: Network Setup Network Setup Network Setup Network Setup Network Setup
	 (1) Select "DHCP (Auto)" or "FIX IP (Manual)." (2) Press to confirm.



*Please note that when accessing shared folder on OSX Leopard, the folders cannot be password protected.

8. Browser Menu

The Browser menu allows users to browse through photo, music, and movie files stored on a HDD, external USB device, or on your home network. To enter the menu, select Browser from the Guide menu page. Once you have entered the guide you will see a list of devices. (As shown below).



(1) Use the navigation buttons on the remote control to select the device on which the media is stored. You can choose from HDD, USB (for media stored on an external flash drive or an external enclosure), and NET (home network).



once you have selected the device.

*If HDD has been selected, remember that your files are on the FAT32 partition.

*When you are browsing through NET, you can choose the computer's name from the menu or you can set "Specific File Server IP" and access it from "My Short Cut" in the menu (as shown on the next page).



My Neighbors:

When you are browsing through NET, you can choose the PC name from the menu or you can select "My Neighbors" to access it. The transcode server software must be installed on the computer you are trying to access through the network in order for it to show under the "My Neighbors" folders.*



*If you install the "Transcode Server" software in your PC, the system will support H.264, RMVB, WMV, RM... format playback through NET only. The "Transcode Server" software currently does not work on Mac OSX Leopard.

8.1 Browsing Music

(1) Use the left and right navigation buttons to select the "Music" tab.



 (2) Select the folder containing your audio files. The song information will appear on the bottom. Press or the play button to start the song.

The KM-31BK supports MP3, WMA, WAV and OGG format Playback.

8.2 Browsing Photos

(1) Use the left and right navigation buttons to select the "Photos" tab.



- (2) Select the folder containing the photos you wish to view.
- (3) Press (INTER) to view the photo in full screen.

Note:

1. When the photo is displayed in full screen mode, the slide show starts automatically. 2. You can browse photos and listen to music at the same time.

You can also use the left or right buttons on the remote to rotate a photo towards any

angle. You can also press **to** zoom in/out of that photo. There are three zoom levels that can be chosen.

The KM-31BK supports High Definition Photo (JPG, JPEG, and BMP) Playback.

8.3 Browsing Movies

(4)

(1) Use the left and right navigation buttons to select the "Movies" tab.



- (2) Select the folder that contains your movie files.
- (3) Select the movie that you want to play.
 - Press **ENTER** or the play button to the movie in full screen.

The KM-31BK supports standard definition and High Definition Video (720P, 1080i) Playback. For example: MPEG1 (DAT, MPG) MPEG2 (VOB, MPG, TS) MPEG4 (AVI, DIVX, XVID)

Note: When viewing HD content, you can adjust the HD output resolution. See "HD Output of SETUP menu" for more details.

8.4 Browsing All

This tab let's user see all their movies, music and photos at once. Simply, use the left and right navigation buttons to select the "All" tab. (As shown on the next Page).



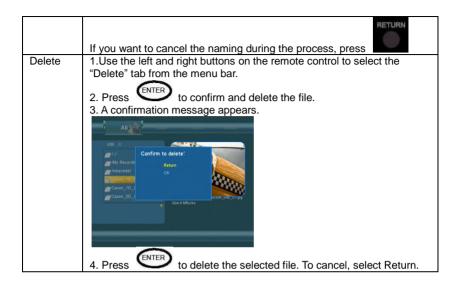
Now you are able to browse through photos, music, and movies on the same tab.

8.5 Editing File Folders

This feature allows user to rename or delete a file or folder right on the device itself.

(1) Select the file or folder to be edited.

Return	Return's to the main screen.
Rename	 Use the left and right buttons on the remote control to select the "Rename" tab from the menu bar. Press on the remote control. An onscreen keyboard will appears.
	3. Use the left and right buttons to browse through letters and numbers. Select CAPS to toggle between uppercase and lowercase letters. Press
	<- to delete a letter. Press -> to insert a space. Press to input each letters or numbers.
	4. Once you have entered the new name, select OK and press to confirm all changes.



9. File Copy Menu

This feature allows users to copy files from NET, USB, and HDD vice versa.

To enter the menu, select File Copy from the Guide menu or select remote control. Please follow these steps:

on the

(1) Select the source device by using the up and down buttons on your remote.



(2) Select the destination source by pressing the right navigation button in order to select your destination source.



(3) Once you have selected the source and destination, you will then enter the file directory. Select a folder under the "Source" column. Once selected, the file or folder name will display



(4) Now press the right navigation button in order to select the "Destination" column. Select the directory the files will be transferred to. Once selected, press the right navigation button to proceed to the next step.



(5) A confirmation window will appear. Select "OK" to copy or select "No" to cancel.



Once the files have been copied, the system will display "File Copy Completed!" If it fails, the system will display "File Copy failed!"



Select "OK" to browse files or select "No" return the main menu.

10. Specifications

USB SUPPORTED (Read Only)

USB HDD USB Card reader

VIDEO CODEC SUPPORTED:

VOB (DVD), IFO (DVD), MPG (MPEG-2/1), AVI (MPEG-4 ASP: XVID, DIVX), DAT (VCD), and MPEG2 TS files; resolution up to 1080i for HD Content.

MUSIC CODEC SUPPORTED:

MP3, OGG, WAV and WMA. Maximum number of files recognizable: 9999 files Compression rate: between 32 kbps and 320 kbps

PHOTO CODEC SUPPORTED:

JPEG, and BMP. Maximum number of pictures recognizable: 9999 files

RECORDABLE MEDIA SUPPORTED

Built in HDD (DVD+VR mode) Built in USB HDD

VIDEO RECORDING MODE

Mode DVD 80 GB HDD 120 GB HDD160 GBHDD

HQ	1hr	16hrs 24hrs 33hrs
SP	2hrs	32hrs 48hrs 66hrs
LP	3hrs	48hrs 72hrs 99hrs
EP	4hrs	64hrs 96hrs 132hrs

SLP 6hrs 96hrs 144hrs 198hrs

VIDEO RECORDING FORMAT

MPEG2: DVD+VR (HQ/SP/LP/EP/S-LP mode)

AUDIO RECORDING FORMAT

DVD+VR (HQ/SP/LP/EP/SLP mode): MPEG2 2-chanel

VIDEO OUTPUT SPECIFICATION Composite Output 1 Vpp 75 Ohm

Components Output Y:1 Vpp 75 Ohm

Cb:0.7 Vpp 75 Ohm

Cr:0.7 Vpp 75 Ohm

AUDIO PERFORMANCE

DA Converter 24-bit/192kHZ AD Converter 24-bit/96kHZ Signal-Noise (1kHZ) ≥ 95dB Dynamic Range ≥90dB (1kHZ) Channel ≥95dB Separation Total Harmonic Distortion (1kHZ) ≤-85dB

CONNECTIONS FRONT PANEL

USB Port

Type A x 1

BACK PANEL

OutputComponent / ProgressiveY/Pb/Pr x 1USB PortType B x 1Network PortRJ45 x 1Coaxial inputCoaxial x1SPIF/OpticalSPIF/OPTICAL x 1DC JackDC 12V x 1GENERALPower SupplyAC 100~240VPowerApprox. 35 WConsumptionOperating+5°C to +40°C (+36°F to +104°F)TemperatureOperating Humidity5% to 80% RHDimensions(W/H/D)Approx 4.3 kg	Video Output Audio L/R Output Video Input Audio L/R	RCA Connector (yellow) x 1 RCA Connector (white/red) x 1 RCA Connector (yellow) x 1 RCA Connector (white/red) x 1
Network PortRJ45 x 1Coaxial inputCoaxial x1SPIF/OpticalSPIF/OPTICAL x 1DC JackDC 12V x 1GENERAL PowerPower SupplyAC 100~240VPower Approx. 35 WConsumptionOperating $+5^{\circ}$ C to $+40^{\circ}$ C ($+36^{\circ}$ F to $+104^{\circ}$ F)TemperatureOperating Humidity5% to 80% RHDimensions $430 \times 66 \times 316$ mm(W/H/D)		
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Operating +5°C to +40°C (+36°F to +104°F) Temperature 5% to 80% RH Dimensions 430 x 66 x 316 mm (W/H/D) 5% to 80% RH	Power	Approx. 35 W
TemperatureOperating Humidity5% to 80% RHDimensions430 x 66 x 316 mm(W/H/D)	Consumption	
Operating Humidity5% to 80% RHDimensions430 x 66 x 316 mm(W/H/D)	Operating	+5°C to +40°C (+36°F to +104°F)
Dimensions 430 x 66 x 316 mm (W/H/D) 430 x 66 x 316 mm	Temperature	
(W/H/D)		5% to 80% RH
		430 x 66 x 316 mm
		Approx 4.3 kg

Note: The specifications and design of this product are subject to change without notice.